

tively. For hypertensive patients treated with statins (8 included trials) the standardized effect size of DSBP and DBP was 0.07 (95%CI: -0.07–0.21;  $p=0.33$ ) and -0.12 (95%CI: -0.36–0.11;  $p=0.31$ ), respectively. **CONCLUSIONS:** Despite previous suggestions, statin therapy in normotensive or hypertensive patients does not lead to reductions in systolic and diastolic blood pressure. Despite these results, however, the routine use of statins, especially in patients with hypertension should be always considered due to the essential reduction of cardiovascular events.

#### PCV6

##### COMPARATIVE EFFECTIVENESS OF DIFFERENT DRUG-ELUTING CORONARY STENTS - A SYSTEMATIC REVIEW OF TAIWAN STUDIES

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**OBJECTIVES:** The first coronary drug-eluting stent gained its market approval in Europe 2002. Many different drug-eluting stents came to the market worldwide since then. In Taiwan, National Health Insurance has partially reimbursed drug-eluting stents since 2006. The number of claimed usage increased from 521 (year 2006) up to 14,311 (year 2010), and total claimed reimburse went up from NTD 15 million to 300 million. The impact to the NHI has been increasing. The aim of this study is to summarize the results of Taiwan drug-eluting stents studies for future researches. **METHODS:** We systematically searched three bibliographic databases: EMBASE, PubMed and Taiwan National Central Library for studies utilizing Taiwan local data. In order to collect as many local studies as we can, no restrictions were applied on publication year, study type, disease, patients, intervention, comparator and outcomes. **RESULTS:** Among the 73 studies we identified in EMBASE and PubMed, only one randomized control trial was found. The authors tried to evaluate the preventive outcome of phosphorylcholine-coated dexamethasone stent by observing restenosis rate. We then expanded our analysis scopes to controlled trials, and additional 26 studies were identified and 3 studies matched our research question. Their topics were about "1 year follow-up after PCI with Titan versus TAXUS stents", "gender differences in patients undergoing coronary stenting" and "the effects of starting statin therapy before PCI with drug-eluting stents". On the other part of our research at Taiwan National Central Library, there was no paper matched our including criteria. Most of the papers included there were coronary stents design related articles. **CONCLUSIONS:** Based on systematically research results, we only found one randomized control trial fully used Taiwan local data. Lack of comparative effectiveness on local stents usage could pose a problem when considering evidence-based decision making.

#### PCV7

##### IMPLEMENTING AND EVALUATING PHARMACIST-MANAGED WARFARIN SERVICE IN INPATIENT AND OUTPATIENT SETTING IN TAIWAN

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**OBJECTIVES:** To identify approaches and to evaluate efficacy of implementing an warfarin service program involving pharmacists. **METHODS:** The pharmacy department worked with the medical staff to establish a warfarin service, including guidelines approval. Pharmacist-managed warfarin service was provided in neurology ward or for patients who were referred from physicians, and others remained standard care of anticoagulants. Data was collected for 3 months after the service implementation (March to May, 2011). Demographic and clinical characteristics as well as laboratory and clinical data were retrieved from institutional electronic databases and compared between the pharmacist-managed and standard-care cohort. Comparisons between study groups were conducted using a  $\chi^2$  or Fisher's Exact test for categorical variables and a two sample t-test or Wilcoxon rank sum test for continuous variables. **RESULTS:** INR below the therapeutic range were observed less frequently (53.3% vs. 61.1%,  $P=0.35$ ) and better control for INR within range were reported more (28.6% vs. 26.9%,  $P=0.80$ ) in pharmacist-managed arm, when compared to standard-care arm. There were also fewer number of patients never reaching the INR goal during the whole study period (35.7% vs. 46.1%,  $P=0.52$ ). None of major bleeding event occurred, however, one thrombotic event was observed in each arm. By intervention of pharmacists, possible adverse event and medication errors were also blocked. For example, one patient discharged while INR over 5 without any physicians' or nurses' awareness was actively informed by pharmacist, then contacted to be cautious with possible bleeding risks and management. **CONCLUSIONS:** Pharmacist-managed warfarin service had a positive impact on anticoagulation management. This study provides further evidence to support the role of pharmacists in anticoagulant therapy. We plan to expend the warfarin service experience to the overall institution in the future.

#### PCV8

##### EVALUATION OF EFFICACY AND SAFETY OF ANTIHYPERTENSIVE DRUGS ON THE REIMBURSEMENT LIST FOR DELISTING POLICY IN KOREA

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**OBJECTIVES:** To develop evaluation criteria comparing efficacy and safety of antihypertensive drugs and to perform comparative analysis based on the developed criteria on the pre-existing antihypertensive drugs on reimbursement list in Korea. **METHODS:** A total of 1226 items with 131 ingredients were categorized into 5 classes: Diuretics,  $\beta$ -blocker, Calcium channel blocker, Angiotensin—converting-enzyme inhibitors, Angiotensin-Receptor-blocker. Proxy and final outcomes eval-

uating efficacy of antihypertensive drugs were determined based on previous studies and opinion of experts. For proxy outcomes, Systolic Blood Pressure and Diastolic Blood Pressure were used while all-cause mortality, cardiovascular mortality, and cardiovascular morbidity were used as final outcomes. Proper criteria evaluating safety are impossible to choose because symptoms and frequency of adverse event varies depending on classes. Systematic review literatures in Korea and other countries were searched using databases such as Pubmed, Cochrane, Embase, Center for Review & Dissemination, KMBase, and KoreaMed. In addition, 6 assessment reports from overseas health technology institutions and opinions of clinical experts were referenced. Finally, 7 literatures using proxy outcomes and 8 literatures using final outcomes were reviewed in-depth after through screening. Additional statistical analysis was not performed. **RESULTS:** On in-depth examination, there was no profound evidence depicting difference in proxy and final outcomes among classes and among ingredients in the same class. Results of 6 overseas technical reports aforementioned were the same as the ones of SR literatures. Opinions of clinical experts confirmed the findings of in-depth examination in proxy outcomes adding that efficacy in final outcomes can be different depending on the co-morbidity status. **CONCLUSIONS:** It was not proven that a particular class or ingredient is superior to others. Therefore, it is expected that if reimbursement list is reorganized based on this result, improvement of public health and saving of health insurance finance is feasible without depriving the prescription rights of clinicians.

#### PCV9

##### META-ANALYSIS OF THE EFFICACY AND SAFETY OF STEVIOSIDE (FROM STEVIA REBAUDIANA BERTONI) IN BLOOD PRESSURE CONTROL IN PATIENTS WITH HYPERTENSION

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**OBJECTIVES:** Stevioside is a major constituent of the plant *Stevia rebaudiana* Bertoni (SRB). Its beneficial effect on human blood pressure has been demonstrated in many studies, with no significant adverse effects being reported. This meta-analysis was aimed to evaluate the efficacy and safety of stevioside against placebo in blood pressure control in hypertensive patients. **METHODS:** A systematic search for relevant studies was performed of the PubMed, ScienceDirect, Cochrane Library and Wiley Online Library databases from their respective inception until February 2012. The bibliography of the retrieved studies was also examined. *Stevia rebaudiana* Bertoni, stevioside, hypertension and randomized controlled trial were used as searching keywords. The studies were included if they: 1. were randomized controlled trials (RCTs) comparing stevioside from SRB with placebo in hypertensive patients; 2. reported on systolic blood pressure (SBP) and diastolic blood pressure (DBP); and 3. were published in English. Data were pooled using the inverse variance-weighted method and statistical analyses were performed using the Review Manager (RevMan) version 5.1.4. **RESULTS:** Three RCTs involving altogether 280 patients were included in the analysis. Stevioside was found to be effective in reducing SBP, with no significant effect on DBP, compared to placebo. The pooled mean differences in SBP and DBP were -10.43 mmHg (95% CI: -12.15 to -8.72 mmHg,  $p<0.01$ ) and -6.67 mmHg (95% CI: -13.23 to -0.10 mmHg,  $p=0.05$ ), respectively. No significant difference in adverse events was reported between the two groups (OR: 1.32, 95% CI: 0.61 to 2.86). **CONCLUSIONS:** Our findings suggest the efficacy of stevioside in reducing SBP but not DBP in hypertensive patients. Additionally, stevioside was shown to produce no significant adverse events in this group of patients.

#### PCV10

##### ANALYSIS OF CONSUMPTION OF ACE INHIBITORS FUNDED BY REPUBLIC FUND OF HEALTH INSURANCE OF THE SERBIA IN 2009

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**OBJECTIVES:** Cardiovascular diseases are the most frequent cause of morbidity and mortality in many countries. That explains why medications for the treatment of cardiovascular diseases are group of drugs with largest consumption, and ACE inhibitors take a large part in the consumption. The aim of this study was to analyze the consumption of prescribed ACE inhibitors, in Serbia during year 2009. **METHODS:** The data about the use of ACE inhibitors were obtained from the Republic Fund of Health Insurance of the Serbia (RFZO). **RESULTS:** Total consumption of ACE inhibitors in year 2009 was 176,29 DDD and total financial outlay was 59.772.897,11€. Largest use of plain ACE inhibitors was for enalapril (78,32 DDD), fosinopril (20,09 DDD), ramipril (19,11 DDD) and cilazapril (14,19 DDD). The volume of their consumption is not in accordance with the funding spent for these products. Enalapril, which has the highest percentage of consumption in this group of 44,43%, has 28,73% of total allocated funds, while the consumption for fosinopril amounts to 11,40% while 18,69% of funds within the group is allocated for this drug. In Norway and Sweden, country with developed pharmacotherapeutic practice, highest usage of plain ACE inhibitors was for ramipril and enalapril. In these countries, other more expensive products are significantly less likely to be used. If the consumption structure of ACE inhibitors in Serbia in 2009 was as in Norway, but with the same volume of consumption RFZO would save about 9.500.000,00€ only for plain ACE inhibitors. **CONCLUSIONS:** Viewed from the perspective of the RFZO, large financial resources would be saved if the structure of the utilized ACE inhibitors in Serbia was more similar to the country with developed pharmacotherapeutic practice.

#### PCV11

##### USE OF ANTI-INFECTIVES FOR SYSTEMIC ADMINISTRATION IN SERBIA IN 2010

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